

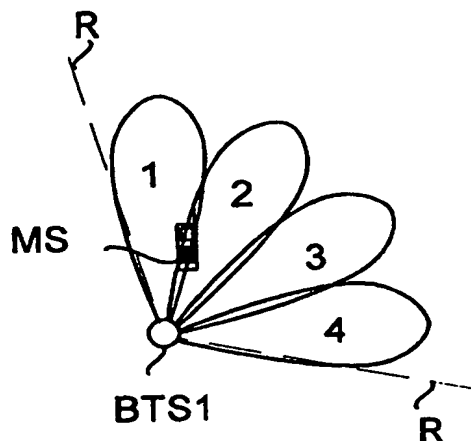


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04Q 7/20, G01S 3/28, 5/02	A1	(11) International Publication Number: WO 97/46034 (43) International Publication Date: 4 December 1997 (04.12.97)
(21) International Application Number: PCT/FI97/00318 (22) International Filing Date: 26 May 1997 (26.05.97) (30) Priority Data: 962215 27 May 1996 (27.05.96) FI (71) Applicant (for all designated States except US): NOKIA TELECOMMUNICATIONS OY [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI). (72) Inventor; and (75) Inventor/Applicant (for US only): PALLONEN, Jorma [FI/FI]; Pitkäsillanranta 7-9 E 128, FIN-00530 Helsinki (FI). (74) Agent: KOLSTER OY AB; Iso Roobertinkatu 23, P.O. Box 148, FIN-00121 Helsinki (FI).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i> <i>In English translation (filed in Finnish).</i>

(54) Title: METHOD FOR DETERMINING THE POSITION OF A MOBILE STATION**(57) Abstract**

The present invention relates to a base station (BTS1) of a cellular radio system, which base station comprises antenna equipment (1-4) for receiving signals from a certain mobile station simultaneously by at least two antenna beams (1-4) directed in different directions, and measuring equipment for measuring the signal levels of the signals received by the respective antenna beams. For determining the position of the mobile station (MS) with greater accuracy the base station (BTS1) is provided with calculating means which are responsive to the measuring equipment to determine the direction from the base station (BTS1) to the mobile station (MS) by calculating the relations between the signal levels of the signals for the respective beams.



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ABSTRACT

S.N. 09/194297

The present invention relates to a base station of a cellular radio system, which base station comprises antenna equipment for receiving signals from a certain mobile station simultaneously by at least two antenna beams directed in different directions, and measuring equipment for measuring the signal levels of the signals received by the respective antenna beams. For determining the position of the mobile station with greater accuracy the base station is provided with calculating means which are responsive to the measuring equipment to determine the direction from the base station to the mobile station by calculating the relations between the signal levels of the signals for the respective beams.

CERTIFICATE UNDER 37 CFR 1.10:

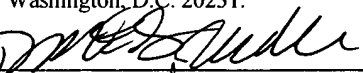
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